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SIBERIAN PLAGUE, PROPERLY TYPHUS AND FEBRIS INTERMITTENS LARVATA, OR RECURRENS, AS IT IS GENERALLY CALLED.

BY DR. B. KRAUS.

[Translated from the "Wiener Medizinische Zeitung" of April 25, 1865, for the Boston Medical and Surgical Journal, by B. JOY JEFFRIES.]

WE are glad to find our views in regard to the so-called "Siberian Plague" confirmed by recent advices from Prof. Gruber, of Petersburg. Although we cannot reconcile many of his statements with our common terminology, and though the account is evidently not from a practitioner's pen, yet it is sufficient to afford us a sketch of the diseases now prevalent in Petersburg, which are typhus and febris intermittens perniciosa. It is to be regretted that the *post-mortem* account which we should have looked for was slighted, yet we are enabled to definitely make up our mind in reference to the epidemic.

It seems there are in reality two epidemics in Russia—*typhus*, of exactly what character we cannot determine from present information, i. e., whether it is an exanthematic, or, as would seem from all the symptoms, our common form, so well understood and studied; besides this there is *febris recurrens*, so called, which has not yet been recognized in Petersburg, but has in former years been diagnosticated in different parts of the country.

The principal symptoms of so-called *febris recurrens* are chills, enlargement of the spleen and liver, pulse 100–140, general languor, and the accompaniments of all febrile affections; in addition, icterus from trouble in the liver, and painful swelling of this organ. We are correct in calling this disease *intermittens larvata*, except that the chills do not occur at regular intervals, but are replaced by a stage of continued heat. The liver and spleen exhibit the same changes as in intermittent, and as nothing, according to Gruber, is found in the intestine characteristic of typhus, and we know of no disease where the abnormal enlargement of these two organs plays

so important a part, we are the more strengthened in our view. Dryness of the tongue is a constant symptom in typhus; who does not recal the red triangle on its end in typhus patients? In intermittens the tongue may remain moist and its tip red; all the symptoms may closely resemble typhus in *intermittens larvata*, and yet, under ordinary treatment, the whole disease may run through in six, eight to ten days, which is never the case in true typhus. We are never through with typhus under four weeks.

Prof. Gruber speaks of a bilious form. Those familiar with intermittent in Hungary will have observed exactly the appearances that Prof. Gruber speaks of, taken from the reports of observers of this epidemic in the various journals. Our journal has given such reliable testimony of this, that we wonder at the epidemic in Russia being regarded as a new form of disease. Hæmorrhage in the brain as a presumptive cause of death during the attack, effusions into the pericardium, are such common appearances in intermittent in Hungary; marked icterus, and death during the first attack occur so frequently there, that we must refer to the excellent work of Dr. Rezch (in Fuzitö, near Komorn) for all that has been considered characteristic of this new epidemic in Petersburg.

The various accounts of the disease in Petersburg have no resemblance to the plague. The plague, a contagious, febrile epidemic, is characterized by boils and arthraces appearing on the cheeks, neck, breast, back, or limbs. The various *plagues* of olden time and the middle ages are in no way analogous to the present Russian epidemic. The *plague* Galen speaks of in old Rome under the Emperor Antoninus, the *plague* in Athens that Thucydides tells of, what is known of the "*black death*" of the 16th century and the "*pest*" of the 17th, are as different from what has now been called the "*Siberian plague*" as heaven from earth. Neither in the symptoms of the disease, its severity, extent, number of persons affected, nor its mortality, does the present epidemic deserve the name of "*plague.*"

Epidemics must be thoroughly studied and understood to be treated and deprived of the alarm they cause. Cholera, typhus, scarlet fever, variola and even measles were much more dreaded, when no rational therapeutics were employed to control them, than now. We need only compare the lists of mortality of the earlier epidemics of cholera, typhus, scarlet fever and variola with those of the present day to see how rational medical treatment may deprive these epidemics of their terror. With all these elements that threaten society, the first necessity is a proper medical knowledge and a thorough understanding of them; and it is the duty of the authorities to take such action as will give physicians opportunity of seeing and diagnosticating them. At the present moment we are quite at ease in reference to the "Siberian plague" in Petersburg, as we know that there are men in Austria who have repeatedly observed the disease and successfully treated it.

[The remainder of the article has already appeared in our pages (see Official Account of the Russian Epidemic in No. 19 of the present volume), with the exception of the following table, giving the number of patients with typhus and recurrent fever treated in the civil and military hospitals of Petersburg, since the beginning of the epidemic to March 1, 1865.—EDS.]

Name of the Hospital.	Number of patients received.		Of these died.	
	Typhus.	Recurrent Fever.	Typhus.	Recurrent Fever.
Hospital Aboukow . . .	1315	2312	306	390
" Marie for the poor . .	1521	736	169	47
" Peter Paul . . .	558	540	51	7
" Maria Magdelena . .	453	734	92	40
" Alexander . . .	1699	821	350	101
" Kalinkin	100	10	20	2
" Ismailovsky . . .	209	1865	47	189
1st Military Hospital . . .	876	307	106	41
2d " "	173	116	26	9
Marine Hospital Kalinkin . .	92	9	11	4
Hospital of Regiment Preobraschensky	46	66	4	2
" " Moskau .	30	94	8	4
" " Grenadiers .	25	15	8	
	7097	7625	1198	836
Total.	14,722		2,034	

CASE OF SUPPURATIVE PHLEBITIS, FOLLOWED BY PYÆMIA AND DEATH.

[Read before the Boston Society for Medical Observation, June 19th, 1865, and communicated for the Boston Medical and Surgical Journal.]

BY A. D. SINCLAIR, M.D.

JANUARY 26th, 1864.—Called upon to visit Mr. ——, æt. 60, house carpenter, whom I found ailing from a febrile affection of an indefinite character—chief symptoms, headache, slight soreness of the throat, with cough, tenderness with some swelling of the abdomen, and some pain in the extremities. He stated that four days previously he exposed himself to cold while much heated by his work. On the same day, moreover, in lifting a heavy weight, through the carelessness of his assistant, being obliged to make extraordinary exertion, a double hernia of which he had been the subject for many years was greatly increased, rendering the truss hitherto worn completely useless in controlling the constantly-protruding masses. He repeatedly, and for several days, pressed back the bowel with his hand, giving himself no little pain, and although conscious that he might be doing himself injury, neglected proper remedial means. Up to the present time he always enjoyed excellent health, being a robust and active man all his life. Now makes little complaint.

Bowels confined. Pulse 64. A cathartic was ordered, which operated moderately. On the following day, a fever mixture was given every four hours.

29th.—Complained of pain and obstruction in passing water, with increase of tenderness over the hypogastrium on deep pressure.

30th.—Seized with severe pain and tenderness along the sagittal suture. Increase of headache and dysuria. Slight diarrhœa. Veratria ointment, ʒ iss. to the ʒ i. of lard, was ordered to be rubbed to the head, and fluid extracts of buchu, pareira and hyoscyamus to be taken internally. Chalk mixture if the diarrhœa continued troublesome.

31st.—Active delirium came on last evening, in which he was with difficulty restrained; talked incessantly about his affairs, &c. This morning, pain in head and delirium passed away. Otherwise about the same.

During these days I felt uncertain regarding the case, and dissatisfied with myself, though the general symptoms were not severe; the tongue, skin and pulse not remarkable, yet it was evident, nevertheless, that there remained some latent and undiscovered cause for the obscure and indefinite condition in which the patient lay.

Feb. 6th.—Attention was directed to the calf of the left leg, of which some complaint was made by the patient on the previous evening. There was some swelling observed, and by a more careful examination the posterior saphena vein was found to be hard and cord-like, and tender to the touch to the extent of about four inches. No complaint was made of pain elsewhere, but on examining the corresponding groin for sympathetic affection of the glands, the penis and scrotum were seen to be swollen, and, on raising the former, he remarked, "that there appeared to be something wrong there." Inflammation of the veins of the penis obtained to an alarming extent, and felt as if the organ were irregularly girt with cords.

From this time there remained no doubt as to the real state of matters; that other veins concealed in the cavity of the pelvis and abdomen were also implicated, it was but reasonable to infer.

11th.—Very great pain and obstruction in passing water, the effort causing extrusion of fæces, and followed by exhaustion; abdomen tympanitic; pain in left hypochondrium, when attempting to turn in bed; phlebitis of leg increased upwards, that of penis somewhat diminished; inflammation of one of the branches of the epigastric vein, running towards the umbilicus; great tenderness on deep pressure over bladder; headache; no diarrhœa; strength failing.

12th.—Examined by rectum, which was quite relaxed, the prostate gland, and the tissues within the pelvis, as far as the finger reached, were swollen and extremely tender. Two or three leeches were applied to the perinæum, followed by relief to the dysuria.

13th.—On getting out of bed, one of the scrotal veins burst, re-

sulting in a free hæmorrhage, with some relief. Otherwise about as on 11th.

14th.—A painful red spot appeared on the inner condyle of right humerus, but no affected vein could be detected in the arm.

17th.—About the same for the past few days, except that the crural inflammation has diminished, under the use of mercury and belladonna ointment. Continues to lose flesh and strength, and is now unable to turn himself in bed. Tongue clean, and pulse generally about 60.

22d.—An abscess, with distinct fluctuation, formed on the posterior of the penis, and was found to communicate with the urethra; prostate gland large and extremely tender.

March 2d.—Copious discharge of fœtid pus from rectum for past three days, particularly on being moved in bed. A large collection of pus inside the right tuber ischii, which discharges, on pressure, into the rectum; a smaller collection of matter at junction of penis with pubes superiorly; abdomen still tympanitic. Bowels continue pretty well, though there exists a tendency to diarrhœa; pain over inner condyle of humerus still severe; nothing unusual externally, but there obtains almost complete inability to use the arm and hand of that side; no chills; hectic flush on face; pulse 84 for several days.

8th.—Copious diarrhœa for past three or four days; abdomen still tympanitic, but not tender, except on deep pressure to the right of umbilicus; occasional purulent discharge from rectum. Another small abscess formed on perinæum; arm the same; strength failing rapidly; is much emaciated; lies on back, with eyes shut; voice strong; intellect generally clear, and has been except during the severe attack of delirium early in his sickness, although occasional mild nocturnal delirium during illness; takes little food; pulse 96.

10th.—Diarrhœa continues; purulent discharge from urethra; profuse perspiration; prostration.

11th.—Diarrhœa ceased; pulse 100; gurgling of air in cavities around rectum; œdema of right hand; tongue clean; skin dry.

From this time until his death, from exhaustion, on the 18th of March, there was no particular change worthy of record.

I have refrained from giving details of treatment as the case proceeded, inasmuch as there would be but little satisfaction derived from their enumeration, consisting as they did in the continuance of quinine and iron, beef-tea, stimulants and nourishing food, administered freely.

Remarks.—1st. At the commencement of treatment of this case, it was impossible, perhaps, to decide as to the actual state of things which existed, for not until after ten days did the nature of the disease become apparent. Taking into consideration the mildness of the constitutional symptoms, the absence, one might say, of any alarming symptoms, with the existence, at the same time, of an indefinite and prostrate condition of the system, resembling typhoid fever, yet

differing from the latter in general character, it was very difficult to decide as to the proper course of treatment to pursue during the earliest days of the disease. The result might have been different, perhaps, had the diagnosis been made earlier in the disease, but it is hoped that the discussion which may ensue on the subject may aid in deciding that question.

2d. Where did the phlebitis originate? Was it idiopathic, or did it arise from injury to the herniæ in the frequent pushing back of the bowel, which was resorted to for several days, and always with more or less pain? It is evident that the pelvic veins became inflamed at a very early period of the disease, for the pain and difficulty in urinating were caused, partly at least, by the inflamed prostate; but, in addition, the perineal fossa became early involved in diffuse inflammation, if, indeed, the whole intra-pelvic inflammation was not contemporaneous. The suppurative phlebitis of the penis is believed to be of rare occurrence, and so also of the prostate gland.

3d. *Duration of the Disease.*—The patient died of pyæmia, after an illness of eight weeks, during which time there was no extraordinary constitutional disturbance. The disease was characterized by increasing emaciation and exhaustion, diarrhœa, hectic, almost entire absence of chills, clean tongue, clear intellect, and when nocturnal delirium occurred the latter was very mild. The pulse remained from 60 to 64 until about three weeks before death, when it mounted to 84, and gradually increased to 100, always fair in character. In the face of symptoms of pyæmic poisoning, at times, it was hoped that the patient might overcome the grave disease from which he suffered.

MR. SOLLY'S CLINICAL LECTURES ON SCRIVENERS' PALSY.

[Continued from page 467.]

Lecture III.

Gentlemen,—Trusting that you have not forgotten what I told you in my last lecture regarding the anatomy of the spinal cord, its groups of cells and nerves connected therewith, I will now endeavor to prove to you that these cells are frequently diseased, and that upon such disease, in all probability, the scriveners' palsy depends. Scriveners' palsy is not, so far as we know, a fatal disease; patients do not die from it, but they may die with it, and as we have not yet any recorded case of a *post mortem* after scriveners' palsy, I want you to look out for it. Nevertheless, it has been proved that these ganglionic cells are liable to disease—a disease which in its early stages cannot be recognized by the naked eye. The microscope must aid us. Thin sections of a healthy cord show all that beautiful anatomy which my old pupil, Lockhart Clarke, has so perfectly elucidated that the Royal Society have awarded him the Royal Medal.

In health the microscope shows the vesicles plump and transparent, with a distinct nucleus and nucleolus. In disease the microscope shows the vesicles no longer transparent, but more or less filled with granular matter, and the nucleus more or less obliterated. In Beale's "Archives," No. XIII., vol. iv., p. 41, you will find, from the pen of Mr. Lockhart Clarke, an admirable account of this granular degeneration. Again let me repeat that this description does not apply to a case of scriveners' palsy, and you will therefore please to understand distinctly that the account I am going to give you of granular degeneration and granular disintegration of vesicular neurine, as described by Lockhart Clarke, does not apply at the present time to scriveners' palsy. If, however, it should hereafter be proved that I am right in my theory, then also will be proved that granular degeneration in its early stage may be arrested, and that fresh and healthy cells are reproduced, if these cells are left completely at rest to perfect the reproduction of the cell structure, and not interfered with during the reproductive action by attempts on the part of the patient to use the damaged centre of nervous power—in other words, by resting entirely the group of muscles which are called into co-ordinate action by such centres.

The first case in which Mr. Lockhart Clarke made this discovery of granular degeneration of nervous tissue in connection with paralysis, is described in vol. iii. of Beale's "Archives," beginning page 1. The whole paper ought to be, if it has not already been, perused by every practitioner of medicine and surgery. I referred to the facts in my lectures at the College of Surgeons the year before last, and I was surprised to find how many even of that learned body of men were unacquainted with the discovery which had been made. It is entitled, "An important Case of Muscular Atrophy, accompanied with Disease of the Spinal Cord." I do not think we shall often see this title again. It implies that the muscular atrophy was the disease, and the condition of the spinal cord the accompaniment; whereas the disease of the cord was the primary malady, and the muscular atrophy the necessary and invariable consequence of long-continued disease of its co-ordinating centre.

The only ground upon which pathologists could base the idea of muscular atrophy consequent upon paralysis without disease of the spinal cord, has been cut from under their feet by this discovery. Hundreds of such cases have been examined, and reported to be free from disease because the disease was not patent to the naked eye. There is no longer any excuse for such nonsense. No *post-mortem* examination of the spinal cord can be considered as conclusive unless it is examined in thin slices under the microscope.

The important features of the case, and those which appear to me at all to bear upon the pathology of scriveners' palsy, are these. The patient was 65 years of age, leading a sedentary life, engaged in literary occupations. "In the end of 1855 he began to

complain of neuralgic pains in the balls of the thumbs of both hands, which before long extended to the forearms and arms. After some months he was conscious of marked weakness in the hands, more especially in the right, soon followed by perceptible diminution of size in the muscles of the thumbs and index fingers, which also became bent inwards and towards the palms as an habitual posture. All this time, while his general health was good, and his body corpulent, he made great complaints of severe neuralgic pains shooting down his arms into the hands and thumbs, and also of weakness of the back. . . . . Nothing abnormal could be detected in the organs of the chest or abdomen. The kidneys and bowels acted regularly, and apparently naturally; he had no tenderness of the spine, no headache, and his mind, when not turned on his own condition, was clear and rational."

The further history of Dr. P.'s case, up to the time of his death, in January, 1861 (the disease lasted, therefore, a little over five years), "which was preceded for a few days, and possibly caused, by an attack of acute laryngitis, is nothing more than a detail of the gradual increase in the intensity of the symptoms already noted, and the extension of the pains to the lower limbs and feet, where the sensation of intense heat and burning was constantly complained of, aggravated by the act of walking."

I shall not attempt to give you the detailed account by Mr. Lockhart Clarke of the *post-mortem* appearances, but such a very brief abstract as will suffice for my present purpose. There was no disease of the pons Varolii or cerebellum. In a transverse section of the spinal cord, at the origin of the fourth pair of cervical nerves, on the left side, in the grey matter of the cord, three lesional spaces might be seen, which were spots of granular degeneration.

The next case in which Mr. Lockhart Clarke gives us the result of his inquiries was clearly not a case of scriveners' palsy, but extremely interesting in every point of view. The case is most ably related by Dr. Thudichum in the fourth volume of Beale's "Archives," page 26, and the brief abstract which I now mean to give you must not prevent your reading the whole account with care and attention.

The patient was 45 years of age. The cause of disease was concussion of the spine produced simply by a jump, the patient coming down heavily on his heels. He was stunned at the time, confined to bed for a few days, and then appeared to get quite well. "It was, however, soon perceived that a great change had taken place in his habits. Having been extremely fond of manly sports and exercises —rowing, cricketing, riding on horseback, dancing and the like—he discontinued to take part in any of them, although he continued to go every autumn to the Scotch moors for the purpose of shooting grouse." At the age of 50—i. e., five years after the accident—"while engaged in this latter sport, he perceived that his right leg

had lost a part of its usual strength; that although he could perform with it every motion, yet he could not perform it in the manner necessary for the purpose; that he could not put the foot in the exact place where he wanted to put it." In other words, that he could will the action of the muscles of the leg, and that they would obey the will, but, the co-ordinating power being lost, he could not combine their action so as to walk.

Mr. Clarke published in the *British and Foreign Medico-Chirurgical Review* (vol. xxx., p. 219) another interesting case of paralysis, with muscular atrophy and disease of the nervous centres, which Dr. Radcliffe brought to his notice. In this case, he says, "the ordinary and inefficient method of examining the nervous centres must have failed to detect minute structural changes upon which the wasting palsy was actually dependent, and would, perhaps, have resulted in recording the case as one of simple muscular atrophy. In this case the condition of granular degeneration had gone on to vesicular atrophy. The cells had shrunk; none of them were larger than the *nuclei* of the surrounding healthy cells; the majority were much smaller, without any traces of nuclei or distinct granular contents. These shrunken cells consisted of irregularly-stellate and apparently membranous bodies, which, in some instances, seemed shrivelled sheaths of healthy cells, or like radiating portions of the connective tissue."

Amongst other proofs that might be adduced in favor of my view, that the seat of the disease is central in the spinal cord, is the fact that the use of the left hand in writing, instead of the right, will induce uncomfortable feeling in the latter. The explanation of which I suppose to be that in writing or drawing the action of the muscles of the left hand, the will having travelled by the conducting fibres of the spinal cord from the brain to the group of cells in the left half of the cord, these cells, on being called into action, excite their neighboring cells, through the medium of the transverse commissure, in the right side of the cord—i. e., those which co-ordinate the muscles in the right, such excitement being manifested by the uncomfortable feeling described. One of my patients, when I spoke to him about the use of the left hand, said he would continue to use it if I wished, but he thought it would be better if he did not use either. He said :—"If I write with my left hand, I feel an indescribable tingling feeling in the damaged hand, which does not subside on leaving off writing;" for instance, he continued to feel it whilst talking to me, having been writing half an hour previously. Occasionally he has the same kind of sensation in the right leg. He also says that he has had less of this discomfort since he has held the paper, on which he has to write, by strong clips instead of holding it steady by the right hand, and then, instead of keeping the right hand before him, putting it out of sight behind the body.

Regarding treatment, Virchow says the therapeutical indications

to be followed in the treatment of these palsies are very doubtful. "In writers' cramp the application of all means of healing has proved fruitless. Neither narcotics, nor stimulants, nor tonics, nor nervines brought any advantage; just as little did counter-irritants, embrocations, electricity, or baths of any sort. Where rheumatism was the cause, Russian vapor-baths, cold douche, electricity, and embrocations, with oil of turpentine, were able to remove the complaint. The cutting through of the long muscle of the thumb was tried with some result by Stromeyer in a case in which writers' cramp was conditional on this muscle. Dieffenbach performed the cutting through of the muscle several times without being able to arrive at anything by it; Langenbeck, with a passing improvement. Nothing therefore remains but the application of different mechanical appliances which make writing possible. Many such are known, designed by Froschel, Cazenave, and others. One patient helped himself by means of placing the pen in a piece of wood bored through with holes, which he grasped with the whole hand, and so could regulate in writing.

As regards treatment, Romberg *(loc. cit.*, p. 323) says—"The treatment hitherto pursued, both local and general, has been invariably ineffectual, so that the patients generally ceased from all attempts at cure, and remained satisfied with mechanical contrivances, the object of which was more or less to cause a pressure upon the skin and the subjacent muscles. Stromeyer also applied the principle of division of the muscles to the cure of the writers' cramp, and in one case a brilliant result justified the antispasmodic reputation of tenotomy. As early as the fourteenth day after the subcutaneous division of the tendon of the flexor longus pollicis, the patient was able to resume his pianoforte-playing and to write. On the other hand, it is to be observed that the operation was perfectly ineffectual in several patients upon whom Dieffenbach operated."

The following passage regarding treatment in the relation by Drs. Adamson and Bell, of the case of Dr. P——, already referred to, is, I think, instructive.

"As regards treatment, it may be mentioned that he made a long-continued trial of the following remedies—viz., iodide of potassium with sarsaparilla, strychnine, quinine, valerianate of zinc, phosphate of zinc, arsenic, tinctures of lobelia and lupulus, of cantharides, ergot of rye, actea racemosa, with various mineral acids. Throughout the progress of the disease he employed occasional, and for the last two years regular, preparations of scammony and calomel. He had sedatives in every variety of form, externally and internally, and for the last three years took Battley's sedative solution every night, consuming about thirty ounces each year, besides trying chlorodyne, chloric ether, conium, henbane, lupulin, &c. &c. He tried galvanism and regular friction or shampooing of the limbs, wet bandages, &c. Subcutaneous injection of morphia was repeatedly tried when pain was concentrated in any individual spot.

"Amongst other systems of treatment, he made a lengthened trial of the waters at Aix-la-Chapelle, and visited also several other German baths, including a water-cure establishment. He also placed himself for a time under a quack doctor, whose grand specific was systematic friction and kneading of the spine. These plans of treatment he discontinued only on being thoroughly convinced that they did him no good.

"Counter-irritation along the spine was also had recourse to, but each and all without the experience of any, even temporary, relief. The diet was always generous, and with a liberal allowance of stimulants."

No mention is made of complete and entire rest of the palsied hand when the disease first made its appearance. Believing as I do that this is the right course to pursue in the treatment of such cases, the fact that the employment of rest was not one of the remedial agents which so signally failed should encourage us to employ it in any similar case.

My own experience, then, in the treatment of these cases is very decided: rest—entire rest from the occupation that has produced the disease. If the disease is recognized early, then two months' entire rest will arrest its progress; at the end of that time strychnine is of service, but it is injurious when given in the early stage of the disease, and before rest. During the time of rest the health should be sustained and improved in every possible way. Fresh bracing air—mountain air if attainable—is of more service than all the tonics in the world. As regards tonics, they must be varied to suit the peculiarities of each constitution. Zinc, iron and quinine are the tonics on which I rely most.

The following is one of the most striking cases of paralysis I know of, induced suddenly by little more than an hours' continuous strain upon a nervous centre, confirming all that I have said regarding the controlling and co-ordinating power of the spinal cord:—A gentleman got into the five o'clock express train for Brighton. He was no sooner seated than he felt a strong desire to have the bowels relieved; but there was no help for it—the train started, nor did it stop till it reached its destination at a quarter past six o'clock. All this time the desire to go to stool increased more and more, but he restrained it successfully by a violent effort. The moment the train stopped he sprang out of the carriage, when the sphincter ani relaxed, and the contents of the bowels were poured out into his clothes. The curious part of the case is, that he became paraplegic. The spinal cord had been over-exerted, exhausted, and paralyzed by the long-continued effort. In this case the brain, from which I suppose all must admit that the will emanated by which he desired to control his sphincter, did not give way. His intellect was not impaired, and the whole muscular system was not paralyzed, only that portion which is supplied by the lower part of the cord. I regard

this as identical in its pathology to scriveners' palsy, only that the destruction of the nervous centre was sudden, not gradual. I do not know what treatment was adopted in this case, but, reasoning from analogy, I should have advised complete rest; that some arrangement should have been made to prevent his ever having to control the action of the bowels if he had retained in any degree that power.

Having told you all I know, or fancy I know, concerning this palsy, and all the speculations I have made regarding the pathological changes produced by or productive of the disease, I will ask you to carry on the subject. If you meet with any cases amongst the poor classes of our working men, send them here, and I will give them a bed and do the best I can to cure them. If you hear of any such cases—and mind you inquire for them when you go into the country—get your medical friends to watch them; and, if they can obtain a *post mortem*, ask them to send me the cervical enlargement of the cord (if they cannot obtain the whole), and we will make sections after the plan recommended by Lockhart Clarke, and test the validity of my views respecting its morbid anatomy.—*Lancet.*

Reports of Medical Societies.

EXTRACTS FROM THE RECORDS OF THE PROVIDENCE MEDICAL ASSOCIATION. BY W. H. TRAVER, M.D., SECRETARY.

Tubular Pregnancy.—Dr. Morton reported the following case of tubular pregnancy, and exhibited the specimen. He was called on the 13th of May to see Mrs. A., who was said to be in a fit. On arriving he found her pulseless. She was well in the morning, grew sick towards noon, vomited, went out, fell upon the side walk, was carried into the house and died at 3 o'clock, P.M. of the same day. On making a post-mortem examination a male fœtus was found, and two quarts of blood in the abdominal cavity.

The fœtus occupied the left Fallopian tube. The placenta was still attached. The womb was enlarged. The patient always enjoyed good health, and had had no vomiting or suffering during the earlier months of pregnancy. The menses were suppressed. She was delivered of a healthy child in 1862 at full term. Presentation normal. The hæmorrhage occurred from the rupture of an artery.

Retropharyngeal Abscess.—Dr. Parsons reported the following case. The subject was a man, aged 52. There was no syphilitic disease, and no positive proof of scrofula, but several members of his family are said to have died of phthisis pulmonalis and tabes mesenterica. He was not aware of having received any local injury, but had been subject to bronchial trouble for years.

About thirty years ago he was salivated three or four times in the treatment of an injury, and ascribes his ill health to that. Some two years ago he experienced for the first time some difficulty in turning his head, with contraction of the muscles of the back of the neck.

During the previous winter he was sick with "lung fever," with relapses. Throughout this period the difficulty in turning his head continued. Within two months the symptoms have increased, and about six weeks ago swelling began in the throat, impeding deglutition. Some two weeks since Dr. Eldridge punctured it and let out about half a drachm of pus, giving some relief, and enabling him to move his neck, and swallow with less difficulty. Deglutition has been so much impeded that when he attempted to swallow liquid it returned through the nostrils. The abscess was again punctured on the 27th of April, and May 1st, no pus being obtained. The man has lost flesh and strength, not having fully regained it since his previous sickness. He now has swelling on the outer portion of the right side of the neck, and over the transverse processes of the third and fourth cervical vertebræ, accompanied with redness, pain, and tenderness.

At times the pain extends to the occiput, and down the side of the neck. There is also swelling on the right side of the parietes of the pharynx, pushing forward the posterior pillar. No fluctuation could be felt. The treatment consisted of steam, gargles and iodide of potassium.

Typhus Fever.—Dr. Perry briefly reported three cases of the above disease occurring in one family. The cases were strongly marked, the skin being covered with the characteristic eruption peculiar to this disease. The two first cases, a male aged 50, and a female aged 25, proved fatal. They were treated in the usual manner with alcoholic stimulants, quinine, camphor and ammonia with generous diet.

The third case, a female aged 18, had symptoms similar to the previous cases. The treatment in this case consisted of ergot with generous diet. In forty-eight hours after I commenced the use of ergot there was a marked improvement. She made a rapid recovery.

How much the ergot had to do the with the favorable termination of the disease, Dr. Perry did not profess to say. The disease originated with a returned soldier.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON: THURSDAY, JULY 20, 1865.

Death by Sewage.—Much has been said and written within a few years concerning the utilization of the sewage of large cities, and constant efforts have been made in England by men of science to convince the public that they were turning into the sea that wealth which should enrich the land, and were sending to distant islands in the Pacific for the very materials they were so largely wasting at home. Popular opinion, which had been previously taught by the same social reformers to regard surface drainage and leaky sewers as sources of the most virulent poisons, was slow to accept the new theory of the harmlessness of scattering sewage broadcast over the land, and in spite of them the work of converting the Thames into an immense cloaca for London went on. Gradually, however, the great cost of artificial and imported fertilizers and the inefficiency and scant supply of domestic manures induced a few cultivators to make trial of

liquid sewage, the result of which, as far as the crops are concerned, has been, we believe, all that was promised. The employment of the same material in a dry and concentrated form here and in other countries leaves no doubt as to its value as a fertilizer, even when diluted by the addition of the immense quantity of water employed for domestic purposes in a large city. If it is also proved to be harmless, the important question of the proper disposal of sewage would seem to be answered at last, by the sacrifice, perhaps, of some very old and strong prejudices, but to the immense advantage of our deteriorating soil.

Unfortunately, however, we know as yet far too little of the laws of nature's great out-of-door laboratory, of the delicate conditions which determine the conversion at one time of effete and decomposing materials into the fertilizing ammoniacal compounds, at another into the invisible and deadly miasm, to warrant the latter conclusion. Two points seem to be well established; that sewage is harmless and inoffensive when covered by and mixed with large bodies of moving water, but that when stagnant or left to decompose upon banks or flats it remains so no longer. Within the past few weeks the inhabitants of the western portion of our city have had ample opportunity of verifying the truth of this statement, for a southerly wind has filled their houses at times with an atmosphere fouler than the most concentrated odor of a cess-pool. Frequently have we been obliged to close our windows at night, and one of our patients informs us that both she and her husband were so powerfully affected by it as to be obliged to vomit repeatedly. We are told by the authorities who have charge of the city smells that the source of this pestilence-breeder is the upheaval of the mud from the bottom of the Back-bay basin, into which the sewage of a large part of our outlying territory has been drained for years, produced by the process of filling now going on. If this be the case, the health of the city requires an immediate stop to be put to such operations until cool weather shall render them no longer dangerous.

It will be remembered that in our last number but one we published an account of 31 cases of dysentery and 20 deaths, occurring in an English county asylum containing but 250 persons, which were caused, beyond question, by the irrigation of an adjoining field with the sewage of the institution. We should not draw the hasty conclusion from this instance that sewage can never be employed for such purposes. It teaches us, however, that there are many conditions to be observed and much still to be learned before we can settle this vexed question. One of the London journals offers some further explanation of the circumstances of the case, and the following comments upon it:—

"Sewage, to be harmless, must be absorbed by the earth. It requires a deeply porous soil, like that mentioned by Mr. Rawlinson in Lombardy, where beds of sand and gravel alternate, so that the water when it has lost its manure elements may find its way steadily downwards. But the land at Carlisle was not porous; it did not absorb; the drains which had been laid down became blocked, and the water, instead of passing deep through porous beds, stagnated in the hollows of a clay surface thinly overlaid with sand, and returned in pestiferous streams to the Asylum. We fully accept Dr. Clouston's *dictum*, that it is unsafe to apply sewage to land with a stiff clay subsoil

within three hundred yards of human habitations, without the most deep and thorough tillage, and every other precaution, both with the land and the sewage, to ensure absorption by the soil, and uninterrupted drainage of superfluous moisture.

"Now for a few words on sewage difficulties generally; because in this, as in many other cases, now that the general principle is accepted, people think there is no need of further thought, as if the details, the means of doing a very ticklish thing in such a way that it shall not be a nuisance, would come of themselves. It is not a very delicate subject, though a necessary one, so we may as well hold our noses, and plunge *in medias res*.

"Assuming that the *water* closet is a necessary evil in towns—though for villages, and for all cases where there is not a perfect water-supply, the *earth*-closets of the Rev. Mr. Moule seem preferable—the first question is, what shall be the immediate destination of the sewage, a river or a tank? If a river, it is of the utmost consequence that the sewage arrive quickly and before decomposition. As Mr. Rawlinson and Mr. Chadwick have shown, at Salisbury and elsewhere, *putrid* sewage, which has been festering in cesspits, badly-constructed sewers, &c., kills fish and befouls rivers. Fresh sewage feeds fish; the trout haunt the outfall of the sewer and become—so we are credibly informed—so fat as to fry without butter. Yet to send sewage into rivers is a nasty and wasteful process, and very unsafe if water be taken for drinking purposes. True, as Dr. Letheby and Mr. Rawlinson affirm, water in motion becomes purified, by the growth of animals and vegetables, the action of the air, and the absorption of the banks and bottoms of rivers; but the principle of turning even fresh sewage into rivers is bad, and that of foul sewage worse.

"Leaving the rivers, then, how is sewage to be applied to land? and here we have to notice that distressing habit of jumping to conclusions, of dogmatizing on general principles, and ignoring details, that want of a practical way of dealing with subjects which makes sanitarians and abstract sanitary science, though founded on truth, so much the laughing-stock of men who have to put science into practice.

"Now, we blush to say it, but some sanitarians really talk as if all that was required was to let the soil pipe of the house empty itself on the nearest lawn, or field, or garden. It is said, for instance, that during a sewage squabble at the watering place of Bournemouth, it was coolly proposed that the sewage of houses a very few yards distant should be emptied on a small field or pleasure ground right in the middle of the town.

"On this point we are glad to find that two of the ablest writers on the subject—Dr. Spencer T. Cobbold, the well-known helmintholologist; the other, not a philosopher, nor natural historian, but one who is actually in the habit of applying sewage—Mr. William Menzies, Deputy-Surveyor of Windsor Forest and Parks, speak out and give us some wholesome truths.

"It must be recollected that the *stercus humanum* is greedily explored by numbers of animals. Dr. Cobbold shows with great force the dangers of a wide-spread invasion of disease due to parasites—from the old, familiar tapeworm, in its various forms, to the new Bilharzia, which invades the kidneys, and which has been detected here

in the bodies of men and monkeys by the acuteness of Dr. John Harley. And Mr. Menzies, like a practical man, shows the danger of putting on the surface of land any sewage containing solids capable of lodging, festering on the surface, instead of soaking into the earth."

FOREIGN MEDICAL INTELLIGENCE.

HONORARY degrees are to be conferred upon the following men of science at the approaching jubilee of the Vienna University:—Baer, Baum, Baumgartner, Dubois-Reymond, Bruns, Bunsen, Carus, Chelius, Donders, Frerichs, Graefe, Helmholtz, Langenbeck, Liebig, Middledorpff, Mitscherlich, Pettenkofer, Purkinje, Reichert, Ruete, Scanzoni, Schönbein, Virchow and Weber.

A senator of Lubeck and all his family, consisting of seven persons, have been poisoned by smoked and uncooked ham, which was found to be loaded with trichinæ. Four members had died at the last report.

Revaccination in the Prussian Army.—During 1864, there were vaccinated, or revaccinated, 69,560 soldiers in the Prussian army. Of these 59,396 had distinct, and 7,265 indistinct marks, and 2,899 no mark at all, of previous vaccination. The results of the vaccination were, 43,596 regular, 10,505 irregular pustules, and in 15,459 no pustules at all. Of the latter kind, on revaccination, 4,897 succeeded, and 10,392 were followed with no results. From this it appears that, in 69,550 men, the vaccination produced regular pustules in 48,493, or in about 70 per cent.—*Brit. Med. Journal.*

The medical profession has sustained a loss, which will be severely felt, by the sudden death of Dr. Robert Fergusson, of King's College Hospital, after an illness of only a few hours' duration. Dr. Fergusson attended Her Majesty in all her confinements as physician, was principal physician to King's College Hospital, and Professor of Midwifery at King's College. He was in his 65th year.

The following cure for drunkenness is practised in Holland. The patient is shut up in a room and debarred all communication, except with his physician. As often as he pleases, spirits (brandy, whiskey, gin, &c.) are given him, but mixed with two thirds water; so, also, are all other drinks, as well as beer, coffee, or wine, mingled with one third water. The various kinds of food, too, that are furnished him—bread, meat, &c.—are all prepared with brandy, consequently the patient is in a state of continual intoxication. This lasts about five days; at the end of that time, he asks with entreaty for other nourishment, without his request being complied with, and that until his organs absolutely abhor any alcohol. The cure is complete, and from this period the very smell of spirits produces on him almost the effect of an emetic.

Cholera.—The cholera is on its travels—that fierce and pitiless plague, which has its residence in the East, but sallies forth at periodical intervals to decimate West, North and South. From time to time we hear of the visitation in distant places—deaths by wholesale in Central Asia, deaths in Southern Russia, regiments disbanded by death on Indian marches, and rivers choked with corpses in the islands of the Eastern Ocean. The last Red Sea news brought word

that Mecca and Medina are this year vast lazar houses of cholera-smitten victims, the pilgrims perishing all along the road to the shrines from Jeddah and the southern ports, and Sheiks who had come to kiss the Kaaba turning back in horror, with their trains, to succumb in tents and houses where they had shut themselves up. Already Egypt has been reached, and the fellahs there are perishing by thousands, so much so that the Italian and French harbors are shut against vessels from Alexandria. Marseilles has kept all the mail boats in quarantine ever since two moribund passengers were landed in the Joliette; and at last we ourselves have been obliged to confront a peril that cannot be disregarded. The newspapers and letters which went out of the General Post Office on Tuesday last were sent in boxes instead of bags, to prevent infection being carried out of Egypt by the mail passing through the country. That, indeed, is not a precaution on our own behalf, but it will also be observed with regard to the overland despatches coming homeward. All the instances we enumerate, and others which might be cited, prove that the cholera is on its periodical march, and without ascribing to the same source the outbreaks in North Russia, Poland and Prussia, it is at least possible that the year may be signalized by the invasion of that enemy which patriotism and courage cannot keep out of our island.—*London Telegraph.*

The Food of Man in Relation to his Useful Work.—A few evenings since, the Professor of Chemistry at Edinburgh, Dr. Lyon Playfair, discoursed at the Royal Institution of London on a subject particularly interesting to the scientific physician, and to which, in some of its aspects at least, allusion has already been made in this journal. Dr. Playfair entitled the subject of this lecture "The Food of Man in Relation to his Useful Work." The chief object of the lecturer was to examine the function of nitrogenous ingredients of foods as a magazine of force for the production of dynamical effects in the animal body. The consideration of the latter as a machine and of the food in the light of fuel supplied, has already engaged the attention of scientific men, and to it we have previously drawn attention. Rumford, Joule, Mayer, Helmholtz, Dumas, Hern, Fick, and Carpenter have written upon it; but all of them have worked upon food in its aggregate, applying their calculations to the total carbon and hydrogen contained in it, without discussing the influence exerted by its separate constituents in the production of force. The Rev. Dr. Haughton of Dublin, however, has gone further. He has endeavored to find in the urine the representative of the mental, vital, and mechanical work of the human body, and gives the following equations:—

Opus mechanicum, or 150 lb. raised one mile = 136·5 gr. of urea.
" *mentale*, or five hours of study = 217 "
" *vitale*, ... = 297 "

Now Dr. Playfair assumes (for reasons we cannot enter into here) that Dr. Haughton cannot have meant these equations in the mathematical sense of equality, but only in the general sense of representation. He is, therefore, obliged to class Dr. Haughton with those in-

vestigators who consider that the transformation of the nitrogenous tissues is insufficient to account for the dynamical movements of the body. Under these circumstances Dr. Playfair undertook to consider the subject entirely anew. In doing so he arranged the discussion under three divisions. Under the first, he sought to ascertain the amount of food necessary for mere subsistence without exercise; to determine the amount required for complete health, with moderate exercise of from five to seven miles daily; to fix the amount suited for active work, such as may be represented by a man walking twenty miles daily continuously; to find the amount of food consumed by laborers with very arduous occupations, such as navvies engaged in railway construction. Having ascertained these preliminary facts, which may be said to be altogether independent of theory, the Professor passed to the second division, under which was discussed whether there be sufficient potential energy in the nitrogenous tissues or of the food representing them, and in the oxygen required for their transformation, to account for the dynamical actions within or without the body. It was next inquired whether the fatty and amylaceous or saccharine ingredients of food are employed in this mechanical work. These points having been disposed of, the third division was entered, under which it was considered whether the excretions of urea and uric acid per vesicam are sufficient representatives of labor performed. Finally it was sought to be ascertained what is represented by the nitrogenous materials excreted per anum. To a few only of the many important generalizations arrived at by Dr. Playfair can we here make allusion.

It was shown that we must look to the plastic ingredients of food as exponents of dynamical action, both internal and external to the human body. When we contrast the useful work of a steam-engine with the potential energy supplied to it, the economy of force on the part of the man appears surprising. Even on the rough mode of calculation available to Scoresby, Joule, Dumas, and Helmholtz, before our knowledge of dietetics had enabled us to consider the question in a more precise way, the relative economy of the human machine excited surprise. And yet it is now known that our demand for economy is much greater than was then supposed to be necessary, and that we actually require that more than half of the potential energy should be converted into useful work. Numerous facts prove that transformation of muscle through the agency of oxygen is the condition of muscular action. Most likely intermediate products are formed before the final forms of carbonic acid and urea are reached. If these graduated changes take place in the muscle itself, the same amount of potential energy will be available as there would be if the simplest forms of oxidation were reached at a bound. If lactic acid be the intermediate product of oxidation before carbonic acid, its passage into the latter must be very rapid, for that is constantly eliminated from a muscle during its action. And if we thus constantly find that carbonic acid, the highest oxidized form of carbon, is manifested in the substance of muscle during its activity, it is certainly to be expected that the less oxidized form of amido-carbonic acid should be simultaneously produced. In those cases of disease where elimination of urea is retarded it is found abundantly in the muscles. Thus, in cholera, especially in the muscles which have been severely cramp-

ed, urea is detected with ease. In this disease there is a small amount of chloride of sodium in the blood, and its solvent action on the urea is thus reduced. In anæmia, also, it can readily be extracted from muscular substance. From the considerations entered into, it must be held that Liebig was amply justified in viewing the non-nitrogenous portions of food as mere heat-givers. They never can act vicariously for albuminous bodies as tissue-formers, although tissues may and do evolve heat by transformation when required to do so. That heat-givers do operate indirectly on the waste of tissues cannot be questioned. They facilitate transformation by keeping up animal heat and by promotion of the circulation. Cold-blooded reptiles become more active when artificial warmth is supplied to them, and conversely warm-blooded mammals become more sluggish when the heat of their bodies falls, as during hybernation. Such dependencies of different groups of food, acting co-ordinately, are incessantly found, but nevertheless each group has its own specific work to perform.

There cannot be longer any question that all the nitrogen of the ingesta is to be found again in the urine and fæces. When a large amount of animal diet is the chief source of food, exercise becomes a necessity in order to waste the tissues for the support of respiration and other vital movements; without it the animal soon loathes the food. This is the experience not only of carnivora, but also of man. Darwin tells us that when in the Pampas he lived tolerably well on a meat diet, "but felt that it would only agree with him with hard exercise." We are informed that the Guachos, who live upon meat, eat largely of fat; probably not only for respiratory food, but also as a protection against unnecessary muscular waste, as may be explained. Sir John Richardson observed the same fact in his Arctic travels, having noticed "that when people have fed for a long time upon lean animal food, the desire for fat becomes so insatiable that they can consume a large quantity of unmixed and even only fat without nausea." The hyena in confinement wastes its tissues by moving backwards and forwards incessantly in its den, and thus is able to consume its animal diet. All this shows that the normal function of nutrition is to build the plastic food into tissues, to be transformed by internal and external dynamical work into carbonic acid, water and urea. The measure of the digestive or assimilative work in a man of healthy digestion is to be found in the nitrogen of the fæces. One-twelfth of all the plastic food taken by a man is converted into digestive ferments, and then is excreted per anum. Finally, we would add that the Edinburgh Professor is not inclined to agree with those physiologists who consider that these "ferments" secreted from the blood are the degraded products of tissue-waste in their passage of urea. On the contrary, he believes them to be merely albumen of the blood the oxygenation of which is incipient, so as to make it ready to build up tissue, as in its passage to fibrin. Hence, when there is an extensive demand on the blood for tissue-material, as in the case of work in excess of the food supplied (for an instance, as observed by Dr. Edward Smith with over-worked prisoners), there the amount of the alvine dejection diminishes.—*London Lancet.*

Maine Medical Association.—The thirteenth annual meeting of the Maine Medical Association was held in Portland on Tuesday and

Wednesday, June 20th and 21st. Dr. Monroe, of Belfast, delivered the introductory address. Dr. Western, Chairman of the Committee on Necrology, presented his report, by which it appeared that three members of the Association have died during the present year, viz., Dr. W. R. Richardson, of the U. S. Navy, Dr. T. H. Breslin, of the Army, and Dr. Luke Hill, of Biddeford; and all of them have perished from diseases contracted in the service of the Union. Memorial resolutions in regard to these members were passed unanimously.

Tuesday evening was devoted to the discussion of the following topics:—"What has occasioned the radical change of treatment within the last quarter of a century? Has the type of disease changed, or is it owing to hereditary intermarriage, mode of living and influences, including former improper treatment, by which the constitution of patients at the present time is broken down, and does not require the heroic treatment formerly indicated and used?"

On Wednesday, reports of interesting cases were made and discussed. The various subjects presented during the session were of great interest to the profession, and were listened to with close attention.—*Med. and Surg. Reporter.*

The exercises connected with the graduation of the medical class of the University of Vermont took place recently in Burlington. The graduating class numbered thirty-two.

The annual commencement exercises of the Long Island College Hospital took place in Brooklyn on the 29th ult. Dr. Mason, after a few introductory remarks, conferred degrees upon fifty-two graduates.

The Medical Society of the State of Ohio met at White Sulphur Springs on the 21st of June, and continued in session three days.

VITAL STATISTICS OF BOSTON.

FOR THE WEEK ENDING SATURDAY, JULY 15TH, 1865.

DEATHS.

	Males.	*Females.*	*Total.*
Deaths during the week	48	46	94
Ave. mortality of corresponding weeks for ten years, 1853—1863,	39.6	34.8	74.4
Average corrected to increased population	00	00	82.23
Death of persons above 90	0	0	0

PAMPHLETS RECEIVED.—The Eastern, or Turkish Bath, with its History, revival in Britain, and application to the purposes of Health. By Erasmus Wilson, F.R.S. With Notes and Appendix, by M. L. Holbrook, M.D. New York: Miller, Wood & Co.—Transactions of the Vermont Medical Society. Session of 1864.

DIED,—At South Natick, July 15th, Dr. Stephen H. Spalding, aged 76 years.—At Spencer, July 1st, Dr. Edward C. Dyer, aged 50 years 4 months.—In Roxbury, 19th inst., Dr. Charles M. Windship, 56 years 3 months 26 days.

DEATHS IN BOSTON for the week ending Saturday noon, July 15th, 94. Males, 48—Females, 46. Accident, 2—apoplexy, 3—congestion of the brain, 2—disease of the brain, 1—inflammation of the brain, 2—cancer, 2—cholera infantum, 15—cholera morbus, 3—consumption, 16—convulsions, 4—diarrhœa, 4—dropsy of the brain, 4—dysentery, 7—gastritis, 1—disease of the heart, 1—infantile disease, 3—intemperance, 1—disease of the kidneys, 4—inflammation of the knee-joint, 1—disease of the liver, 1—congestion of the lungs, 1—inflammation of the lungs, 2—marasmus, 3—paralysis, 1—puerperal disease, 1—rheumatism, 1—scrofula, 1—stricture of the urethra, 1—smallpox, 2—sore throat, 1—tabes mesenterica, 1—unknown, 1—whooping cough, 1.

Under 5 years of age, 43—between 5 and 20 years, 9—between 20 and 40 years, 20—between 40 and 60 years, 11—above 60 years, 11. Born in the United States, 68—Ireland, 18—other places, 8.